

REMARKS

Claims 1-34 are pending, and new claims 35-37 have been added. Claims 16-34 have been withdrawn.

Applicants have amended claim 1 to recite “in contact with a G-protein-coupled receptor (GPCR) array, the GPCR array comprising multiple GPCRs which have different ligand-binding activities.” Applicants have also amended claim 1 to delete the phrases “for multiplexed binding assays using GPCR arrays,” “having a composition,” “optionally a combination of,” and “protease-inhibitor at a concentration of about 0.001 mM to about 1000 mM.” In addition, Applicants have replaced the term “the composition” with “the buffered solution.” These amendments to claim 1 are supported at least by page 5, from line 1 to line 24; page 10, from line 11 to line 20; and from page 12, line 13, to page 13, line 10, of the specification; and by Figures 2A-2D.

Applicants have also amended claims 6-10, 14, and 15. The amendments to these claims are either purely cosmetic, or to provide antecedent basis. Moreover, Applicants have amended claim 13 to delete the term “dry milk.”

New claims 35-37 have been added. Claim 35 is supported at least by original claim 13 and page 13, lines 30-31, of the specification. Claim 36 is supported at least by page 5, from line 1 to line 24; page 10, from line 11 to line 20; and from page 12, line 13, to page 13, line 10, of the specification; and by Figures 2A-2D. Claim 37 is supported at least by original claims 7-9.

Claims 36 and 37 are readable upon the elected species BSA. Claim 1 is a generic or linking claim for claim 35. Accordingly, Applicants respectfully submit that upon allowance of claim 1, claim 35 is entitled to consideration on the merits.

Applicants have also amended the drawings by providing three copies of the replacement color drawings of Figures 1A, 1B, 2A, 2B, 3A, 3B, and 5, and a black and white copy of each of the above color drawings and Figures 1C, 2C, 2D, 3C, 3D, and 4. The color of each column in Figures 1C, 2C, 2D, 3C, and 3D has been changed. Applicants respectfully submit that the replacement sheets of the drawings are supported at least by the originally-filed color drawings.

Applicants have further amended the specification by inserting a statement at page 6, line 24, as required by 37 C.F.R. 1.84(a)(2)(iv).

Applicants respectfully submit that the amendments to the specification, the claims, and the drawings do not introduce new matter. Accordingly, Applicants respectfully request entry of these amendments.

Election/Restriction

On page 2, the Office Action deems the restriction/election requirement proper. Applicants respectfully disagree with the restriction/election requirement for the reasons set forth in the Reply to Restriction Requirement filed February 24, 2005. Applicants reserve the right to petition the restriction/election requirement to the Commissioner under 37 C.F.R. §1.181. Applicants also reserve the right to pursue the withdrawn claims in a divisional or continuation application(s).

On page 2, the Office Action acknowledges Applicants' election with traverse of Group I, claims 1-15. Applicants, once again, respectfully submit that claim 1 is a generic or linking claim for claims 11 and 12. Therefore, Applicants respectfully request the Examiner to examine claims 11 and 12 on the merits upon allowance of claim 1.

Objections to the Drawings

On pages 2-3, the Office Action objects to the drawings for having poor resolution. In particular, the Office Action objects to the microarrays images in Figures 2 A and 2B and the diagrams in Figures 3C and 3D. Applicants have submitted a set of replacement sheets for Figures 2A, 2B, 3C, and 3D. Applicants respectfully submit that each column in the replacement sheets of Figures 2A, 2B, 3C, and 3D is conspicuously distinguished, thereby obviating the Examiner's objections. Applicants also submit that the replacement sheets of Figures 2A, 2B, 3C, and 3D are supported at least by the originally-filed color drawings and, therefore, do not introduce new matter. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the objections to the drawings.

Claim Rejections Under 35 U.S.C. §112, Second Paragraph

On pages 3-5, the Office Action rejects claims 1-10 and 13-15 under 35 U.S.C. 112, second paragraph, as being indefinite. Applicants respectfully traverse the rejections.

On page 3, the Office Action first rejects claims 1-5 for reciting the term "about." In W.L. Gore & Associates, Inc. v Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), the Federal Circuit held that a limitation defining the stretch rate of a plastic as "exceeding

about 10% per second” is definite because infringement could be clearly assessed through the use of a stopwatch. See also MPEP §2173.05(b). Similarly, Applicants respectfully submit that without showing the existence of close prior art, the term “about,” as recited in claims 1-5, is definite because the pH of a solution or the concentration of an ingredient can be readily measured using conventional techniques. Accordingly, reconsideration and withdrawal of the §112 rejection of the term “about” are respectfully requested.

On pages 3-4, the Office Action also rejects claim 1 for reciting the phrases “the solution having a composition,” “optionally,” and “or both c) and d.” Applicants have deleted these phrases, thereby rendering the rejections of these phrases moot.

On pages 3-4, the Office Action further rejects claim 1 for reciting the phrase “pH in the range of about 6.5 to about 7.9.” Applicants respectfully submit that the phrase “pH in the range of about 6.5 to about 7.9” refers to the pH of the “buffer reagent,” as opposed to the “buffered solution.” Accordingly, Applicants respectfully submit that the phrase “pH in the range of about 6.5 to about 7.9” is definite under 35 U.S.C. §112, second paragraph.

In addition, on page 4, the Office Action rejects claim 1 for reciting “0.01 wt.% to about 2 wt.% of the composition.” Applicants have amended claim 1 to replace the term “composition” with “solution,” thereby obviating the Examiner’s rejection.

On page 4, the Office Action also rejects claim 7 for reciting the terms “commonly used” and “said pH buffer.” Applicants have amended claim 7 to delete the phrase “commonly used” and replace the term “said pH buffer” with “said buffer reagent.” Applicants respectfully submit that these amendments to claim 7 overcome the Examiner’s rejection.

Furthermore, the Office Action rejects claim 8 for reciting the term “may be” and claim 9 for missing a period “.” at the end of the claim. Applicants have amended claim 8 by deleting the term “may be,” and claim 9 by adding a period “.” at the end of the claim. Applicants respectfully submit that these amendments to claims 8 and 9 obviate the Examiner’s rejection.

In addition, the Office Action rejects claim 10 for reciting “said blockers,” “the binding,” “the probe receptor,” and “said blockers characterized as a reagent.” Applicants have amended claim 10 to replace the phrases “said blockers,” “characterized as,” “the binding” and “the probe receptors within a biological membrane microspot” with “said blocker reagent,” “is,” “binding” and “a GPCR on the GPCR array,” respectively. Applicants respectfully submit that these amendments to claim 10 overcome the Examiner’s rejection.

On pages 4-5, the Office Action further rejects claim 13 for reciting “dry milk,” claim 14 for reciting “said solution,” and claim 15 for reciting “sulforyl” and “ethylmaleimid.” Applicants have amended claim 13 by deleting the term “dry milk,” claim 14 by replacing “said solution” with “said buffered solution,” and claim 15 by replacing “sulforyl” and “N-ethylmaleimid” with “sulfonyl” and “N-ethylmaleimide,” respectively. Applicants respectfully submit that these amendments render the Examiner’s rejections of claims 13-15 moot.

Based on all of the above reasons, Applicants respectfully submit that claims 1-10 and 13-15 satisfy the definiteness requirements under 35 U.S.C. §112, second paragraph. Reconsideration and withdrawal of the §112 rejections of these claims are, therefore, respectfully requested.

Claim Rejections Under 35 U.S.C. §103(a)

On pages 5-6, the Office Action rejects claims 1-10 and 13-15 under 35 U.S.C. §103(a) as being obvious over Hawes & van Biesen, CURRENT PROTOCOLS IN PHARMACOLOGY, Unit 3.5 (1999) (hereinafter “Hawes & van Biesen”), in view of Boehringer Mannheim Corp, 1998 Biochemicals Catalog, pp. 486-493 (1998) (hereinafter “Boehringer Mannheim”). Applicants respectfully traverse the rejection

Applicants have amended claim 1 to recite “in contact with a G-protein-coupled receptor (GPCR) array, the GPCR array comprising multiple GPCRs which have different ligand-binding activities.” Applicants respectfully submit that Hawes & van Biesen and Boehringer Mannheim, either alone or in combination, neither teach nor suggest the use of GPCR arrays that includes multiple GPCRs with different ligand-binding activities. Accordingly, Hawes & van Biesen and Boehringer Mannheim do not teach or suggest all of the elements of claim 1. Therefore, Applicants respectfully submit that claim 1 is patentable over both Hawes & van Biesen and Boehringer Mannheim. See MPEP §2143.03 (“To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.”).

Because claims 2-10 and 13-15 depend from claim 1, Applicants respectfully submit that these claims are also patentable over Hawes & van Biesen and Boehringer Mannheim.

Based on the foregoing, Applicants respectfully request the Examiner to reconsider and withdraw the §103 rejections of claims 1-10 and 13-15.

Double Patenting Rejection

On pages 6-7, the Office Action provisionally rejects claims 1-5, 7-10 and 13-15 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4-5 and 10-12 of co-pending U.S. Patent Application Serial No. 10/651,554. Applicants respectfully traverse the rejection.

Claims 1-5, 7-10 and 13-15 of the instant application are directed to assay conditions for GPCR arrays, while claims 1, 4-5 and 10-12 of co-pending U.S. Patent Application Serial No. 10/651,554 are directed to reformulation of biological membranes for the fabrication of membrane arrays. Accordingly, Applicants respectfully submit that the two sets of claims at issue are not obvious over each other. Reconsideration and withdrawal of the double patenting rejection are, therefore, respectfully requested.

CONCLUSION

Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance of the claims are earnestly solicited. Although Applicants believe that the fees paid herewith is correct, the Commissioner is hereby authorized to charge any payment deficiency or credit any overpayment to deposit account number 19-2380 referring to attorney docket number 015275-060009.

Should the Examiner believe that anything further is desired in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' attorney of record.

Respectfully submitted,



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